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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/690,920
Filing Date: October 22, 2003
Appellant(s): MOSING ET AL.

MAILED

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GROUP 3600

Donald E. Mosing
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/21/06 appealing from the Office action mailed 3/17/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

Claims 1, 4-5, 7, 10, 12, 14, 18, 20, 23, 26, 29, 34-35, 37, 39, 51, 54, 60-61, 63, 69 and 72-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson (US. 1,507,877) in view of Wood (US. 5,709,416).

Claims 1-5, 7, 10, 12-15, 17-21, 23, 26, 28-29, 32-39, 51, 54, 56-58, 60-61, 63-66, 69 and 72-73 rejected under 35 U.S.C. 103(a) as being unpatentable over Kamp (US. 6,283,511) in view of Wood (US. 5,709,416).

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Claims 1, 4-6, 12-14 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCaskill (US. 4,185,856) in view of Wood (US. 5,709,416).

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

1,507,877	Wilson	6/1921
6,283,511	Kamp	9/2001
4,185,856	McCaskill	1/1980
5,709,416	Wood	1/1998

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1, 4-5, 7, 10, 12, 14, 18, 20, 23, 26, 29, 34-35, 37, 39, 51, 54, 60-61, 63, 69 and 72-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson (US. 1,507,877) in view of Wood (US. 5,709,416).

The Wilson coupling illustrates and teaches a connection for assembly of with a first pipe 16 having a female end 14, a second pipe 12 having a male end 10 wherein the female end has an inner surface and an outer surface and the male end has an inner surface and an outer surface. A first plurality of protuberances 21 circumferentially and longitudinally spaced relative to each other about the inner surface of said female end and a second plurality of protuberances 20 circumferentially and longitudinally spaced relative to each other about the outer surface of said male end. The circumferential spacing forms a circumferential array having at least one longitudinal column on both the inner surface of said female end and the outer surface of said

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male end. The arrays are aligned such that said plurality of protuberances are accepted by a mating pipe end when said male and female pipe ends move relative to each other for forming a connection and wherein the male and female ends engage upon any rotation of one pipe relative to the other pipe wherein such rotation causes said protuberances of the male end and said protuberances of the female end to move circumferentially with respect to each other. The male and female ends are attached to the pipe via threads 11 and 15 and the protuberances are produced via an interrupted and tapered screw thread of which the protuberances include a lead angle. Also the connection includes abutment surfaces 23,24 at one end of the threads and 25,26 at the other end and further the interrupted threads 20,21 themselves form abutment surfaces with each other. Further, the interrupted thread can be viewed as cam patches wherein the threads are arcuate cams (see figs. 3 and 4) and the protuberances are radially captured as they are covered by the slots and thereby prevent radial expansion of the female end relative to the male end. Wilson also illustrates another abutment surface 25 that is on the male end and abutment surface 26 on the female end.

Wilson discloses the invention substantially as claimed above but fails to disclose that the abutment surface 24 of the male end substantially entraps the abutment surface 23 of the female end or the abutment surface 25 of the female end entraps the abutment surface 26 of the male end. Wood discloses a male end and a female end, the male end having an abutment surface having a protrusion (16) that is received in a recess (recess in female member 9) of an abutment surface of the female end (9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the abutment surfaces of the male and female end of Wilson to entrap the other of the abutment surfaces of the male and female end as taught

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by Wood, to provide proper compression loading and to eliminate movements to separate the joint (column 3, lines 48-49 of Wood).

2. Claims 1-5, 7, 10, 12-15, 17-21, 23, 26, 28-29, 32-39, 51, 54, 56-58, 60-61, 63-66, 69 and 72-73 rejected under 35 U.S.C. 103(a) as being unpatentable over Kamp (US. 6,283,511) in view of Wood (US. 5,709,416).

Kamp coupling illustrates and teaches a connection for assembly of with a first pipe 52 having a female end 54, a second pipe 2 having a male end 9 wherein the female end has an inner surface and an outer surface and the male end has an inner surface and an outer surface. A first plurality of protuberances 70-77 circumferentially and longitudinally spaced relative to each other about the inner surface of said female end and a second plurality of protuberances 5 circumferentially and longitudinally spaced relative to each other about the outer surface of the male end. As noted on column 5, lines 64-67 continuing to column 6, lines 1-5 the columns can be odd (three) or even (two) or other numbers of columns can be provided". The circumferential spacing forms a circumferential array having at least one longitudinal column on both the inner surface of said female end and the outer surface of said male end. The arrays are aligned such that said plurality of protuberances are accepted by a mating pipe end when said male and female pipe ends move relative to each other for forming a connection and wherein the male and female ends engage upon any rotation of one pipe relative to the other pipe wherein such rotation causes said protuberances of the male end and said protuberances of the female end to move circumferentially with respect to each other. See column 6-8, which discuss how the connection is made and the various shapes and angles to which the slots and protuberances can be made. The protuberances are produced via an interrupted and straight screw thread of which the

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protuberances include a lead angle. Also the connection includes abutment surfaces 7,57 at one end of the threads and 20,86 at the other end and further the interrupted threads as illustrated in. figs. 6 and 7 themselves form abutment surfaces with each other. Further, the interrupted thread can be viewed as cam patches wherein the threads are arcuate cams that extend around the circumference of the round male and female members. As to claim 38 the degree of rotation merely depends on the number of columns and/or the length of the slots and protuberances and since the Kamp coupling is clear that such features can be varied as needed or desired it is clear that Kamp thus anticipates the 20 degree ranges prescribed by claim 38 as such a range would fall well within a coupling with a high number of columns of slots and protuberances. See surfaces 35 and 85, which engage limit rotation (column 11, lines 1-20). Further, the protuberances are radially captured as they are covered by the slots and thereby prevent radial expansion of the female end relative to the male end.

Kamp discloses the invention substantially as claimed above but fails to disclose that the abutment surface 7 of the male end entraps the abutment surface 57 of the female end. Wood discloses a male end and a female end, the male end having an abutment surface having a recess (15) that receives a protrusion (16) of the female end (end of 9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the abutment surfaces of the male and female end of Kamp to entrap the other of the abutment surfaces of the male and female end as taught by Wood, to provide proper compression loading and to eliminate movements to separate the joint (column 3, lines 48-49 of Wood).

3. Claims 1, 4-6, 12-14 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCaskill (US. 4,185,856) in view of Wood (US. 5,709,416).

The McCaskill coupling illustrates and teaches a connection for assembly of with a first pipe 20 welded to a female end 70, a second pipe 23 welded to a male end 60 wherein the female end has an inner surface and an outer surface and the male end has an inner surface and an outer surface. As shown in fig. 2 a first plurality of protuberances 76 circumferentially and longitudinally spaced relative to each other about the inner surface of said female end and a second plurality of protuberances 66 circumferentially and longitudinally spaced relative to each other about the outer surface of said male end. The circumferential spacing forms a circumferential array having at least one longitudinal column on both the inner surface of said female end and the outer surface of said male end. The arrays are aligned such that said plurality of protuberances are accepted by a mating pipe end when said male and female pipe ends move relative to each other for forming a connection and wherein the male and female ends engage upon any rotation of one pipe relative to the other pipe wherein such rotation causes said protuberances of the male end and said protuberances of the female end to move circumferentially with respect to each other. As to claim 38 the degree of rotation merely depends on the number of columns and/or the length of the slots and protuberances and since the coupling shows a large number of slots and protuberances it is clear that the coupling thus anticipates the 20 degrees ranges prescribed by claim 38 as such a range would fall well within a coupling with a high number of columns of slots and protuberances. The male end 60 has an abutment surface 62 and the female end has an abutment surface 72.

McCaskill discloses the invention substantially as claimed above but fails to disclose that the abutment surface 62 of the male end entraps the abutment surface 72 of the female end. Wood discloses a male end and a female end, the male end having an abutment surface having a

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protrusion (16) that is received in a recess in an abutment surface of the female end (end of 9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the abutment surfaces of the male and female end of McCaskill to entrap the other of the abutment surfaces of the male and female end as taught by Wood, to provide proper compression loading and to eliminate movements to separate the joint (column 3, lines 48-49 of Wood).

(10) Response to Argument

Appellant's arguments filed 12/21/06 have been fully considered but they are not persuasive.

In response to appellant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., pile driving pipe or tubulars into the earth and a coupled pipe is being driven into the earth such as by hammering, see appeal brief page 18, lines 1-11, page 20, lines 17-19, page 23 and lines 10-11) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Response to appellants' argument with respect to the rejection based on prior art of Wilson and Wood. Claims 1, 4-5, 7, 10, 12, 14, 18, and 20 stand or fall together.

Appellants' argument that neither Wilson nor Wood teach protuberances embodying at least one interference dimension that causes the protuberance to displace a mating protuberance surface is not persuasive because Wilson teaches protuberances 21 on a female pipe end 14 and

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protuberances 20 on a male pipe end 12 that displace each protuberances of the female pipe end and the male pipe end and the protuberances 21 and 20 are discontinuous. Furthermore Wilson also teaches that the female pipe end and the male pipe end have abutment surfaces or double shoulders (surfaces or shoulders 23, 24, 25 and 26).

Appellants' argument that neither Wilson nor Wood teach nose ends on the abutment surfaces or shoulders is not persuasive because Wood teaches that radial surfaces on members 12 and 9 have nose 16 or complementary recess 15 that retains the nose (i.e. member 9 has a nose 16 and recess 15 and member 12 has nose 16 and recess 15). Furthermore Wood specifically provides teaching for having nose and complementary recess to retain the nose (Wood, column 2, lines 19-25, "It is yet another object of this invention to provide a mortise and tenon on the threaded pin section of the joint and a corresponding mortise and tenon on the threaded box section of the joint with matched tapered load bearing surfaces to offset any axial action under working conditions. The unique shape of these mortise and tenon elements also eliminates the need for an additional sealing means between pipe sections.").

Claims 23, 26, 29 and 34-35 stand or fall together.

Appellants' argument that neither Wilson nor Wood teach that the abutting surfaces are distinct from the surfaces of the threads is not persuasive because as shown in Wilson that the abutting surfaces 23, 24, 25 and 26 are distinct from thread or protuberances 20 and 21. Furthermore appellants' argument that thread 22 is continuous is not persuasive because as shown in the drawing the thread is not continuous. Furthermore as stated in the rejection Wilson teaches the claimed protuberances 21 and 22 that are circumferentially and longitudinally spaced relative to each other.

Claims 37 and 39 stand or fall together.

Appellants' argument that neither Wilson nor Wood teach that the respective pipe ends pulls the nose faces is not persuasive because as stated in the rejection that the protuberances 20 and 21 of Wilson pulls the pipe ends together.

Claims 51, 54, 60, 61 and 63 stand or fall together.

Appellants' argument that neither Wilson nor Wood teach that the respective pipe ends pulls the nose faces is not persuasive because as stated in the rejection that the protuberances 20 and 21 of Wilson pulls the pipe ends together.

Appellants' argument that neither Wilson nor Wood teach that the abutting surfaces are distinct from the surfaces of the threads or protuberances is not persuasive because as shown in Wilson that the abutting surfaces 23, 24, 25 and 26 are distinct from thread or protuberances 20 and 21.

Claims 69, 72 and 73 stand or fall together.

Appellants' argument that neither Wilson nor Wood teach that the abutting surfaces are distinct from the surfaces of the threads or protuberances is not persuasive because as shown in Wilson that the abutting surfaces 23, 24, 25 and 26 are distinct from thread or protuberances 20 and 21.

Appellants' argument that neither Wilson nor Wood teach that the respective pipe ends pulls the nose faces is not persuasive because as stated in the rejection that the protuberances 20 and 21 of Wilson pulls the pipe ends together.

Response to appellants' argument with respect to the rejection based on prior art of Kamp and Wood. Claims 1-5, 7, 10, 12-15 and 17-21 stand or fall together.

Appellants' argument that neither Kamp nor Wood teach the abutment surfaces that are distinct from thread or protuberances is not persuasive because Kamp teaches protuberances or threads (protuberances or threads 70-77 on the female pipe end and protuberances or threads 5 on the male pipe end) that are distinct from abutting surfaces or shoulders 7, 57, 20 and 86.

Appellants' argument that neither Kamp nor Wood teach the utilization of double shoulders mating so as to bear compressive loads is not persuasive because Kamp shows the abutting surface or shoulder 7 and 57 in figure 3 and 20 and 86 in figure 7.

Appellants' argument that neither Kamp nor Wood teach an entrapment of nose end within a abutment surface or shoulder is not persuasive because Wood teaches that radial surfaces on members 12 and 9 have nose 16 or complementary recess 15 that retains the nose (i.e. member 9 has a nose 16 and recess 15 and member 12 has nose 16 and recess 15). Furthermore Wood specifically provides teaching for having nose and complementary recess to retain the nose (Wood, column 2, lines 19-25, "It is yet another object of this invention to provide a mortise and tenon on the threaded pin section of the joint and a corresponding mortise and tenon on the threaded box section of the joint with matched tapered load bearing surfaces to offset any axial action under working conditions. The unique shape of these mortise and tenon elements also eliminates the need for an additional sealing means between pipe sections.").

Appellants' argument that neither Kamp nor Wood teach at least one of the protuberances embodies at least one interference dimension that causes the protuberances to displace a mating protuberance surface is not persuasive because Kamp teaches protuberances 70-77 as shown in

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figure 5 that cause the protuberance to displace a mating protuberance surface (surfaces of 21-27).

Claims 23, 26, 28, 29 and 32-36 stand or fall together.

Appellants' argument that neither Kamp nor Wood suggest that the abutting surfaces are distinct from the surface of the threads or protuberances is not persuasive because Kamp teaches abutting surfaces 7, 57, 20 and 86 which are distinct from protuberances 70-77 and 5 which are circumferentially and longitudinally spaced.

Claims 37-39 stand or fall together.

Appellants' argument that neither Kamp nor Wood teach that the respective pipe ends pulls the nose faces is not persuasive because as stated in the rejection that the protuberances 5, 70-77 of Kamp pulls the pipe ends together.

Claims 51, 54, 56-58, 60-61 and 63-66 stand or fall together.

Appellants' argument that neither Kamp nor Wood teach that the respective pipe ends pulls the nose faces is not persuasive because as stated in the rejection that the protuberances 5, 70-77 of Kamp pulls the pipe ends together.

Claims 69, 72 and 73 stand or fall together.

Appellants' argument that neither Kamp nor Wood suggest that the abutting surfaces are distinct from the surface of the threads or protuberances is not persuasive because Kamp teaches abutting surfaces 7, 57, 20 and 86 which are distinct from protuberances 70-77 and 5 which are circumferentially and longitudinally spaced.

Response to appellants' argument with respect to the rejection based on prior art of McCaskill and Wood. Claims 1, 4-6 and 12-14 stand or fall together.

Appellants' argument that McCaskill fails to teach shoulders or abutting surfaces to bear the compressive loads is not persuasive because as stated in the rejection McCaskill teaches abutting surfaces 62 and 72 that bear compressive loads.

Appellants' argument that McCaskill fails to teach double shoulders is not persuasive because McCaskill teaches double shoulders or two abutting surfaces (62 and 72).

Appellants' argument that McCaskill fails to teach nose ends on the double shoulder or abutting surface is correct but this is particularly taught by Wood.

Appellants' argument that there is not motivation to combine Wood is not persuasive because Wood, column 2, lines 19-25, "It is yet another object of this invention to provide a mortise and tenon on the threaded pin section of the joint and a corresponding mortise and tenon on the threaded box section of the joint with matched tapered load bearing surfaces to offset any axial action under working conditions. The unique shape of these mortise and tenon elements also eliminates the need for an additional sealing means between pipe sections."

Claims 37-39 stand or fall together.

Appellants' argument that neither McCaskill nor Wood teach that the respective pipe ends pulls the nose faces is not persuasive because as stated in the rejection that the protuberances 76 and 66 of McCaskill pulls the pipe ends together.

Appellants' argument that neither McCaskill nor Wood suggest that the abutting surfaces are distinct from the surface of the threads or protuberances is not persuasive because McCaskill

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teaches abutting surfaces 72 and 62 that are distinct from protuberances 66 and 76 that are circumferentially and longitudinally spaced.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Vishal Patel

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